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REF



August 30, 2007
Project 04516-2

Geotechnical
Environmental and
Water Resources
Engineering

Ms. Irene M. Dale
Environmental Engineer
Bureau of Waste Site Cleanup
Department of Environmental Protection
205B Lowell Street
Wilmington, MA 01887

RECEIVED

AUG 31 2007

DEP
NORTHEAST REGIONAL OFFICE

Dear Ms. Dale:

Re: **Monthly Remedial Monitoring Report No. 4**
50 Tufts Street Site
Somerville, MA
RTN 3-23246

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On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. is submitting this Remedial Monitoring Report (RMR) No. 4 for the operation of Active Remedial Systems related to the release of chlorinated volatile organic compounds (VOCs) at 50 Tufts Street in Somerville, Massachusetts (Site), Figure 1. The Massachusetts Department of Environmental Protection (DEP) initially assigned Release Tracking Number (RTN) 3-26114 to the release. The Site was later incorporated into the nearby site at 50 Tufts Street (RTN 3-23246) and on July 21, 2007, the RTNs were linked. A sub-slab depressurization system (SSDS) was installed and began operating at the Michael E. Capuano Early Childhood Center (Center) located at 150 Glen Street in Somerville, Massachusetts (see Figure 2) on February 1, 2007 in order to mitigate chlorinated VOCs detected in indoor air at the Center. Residential SSDSs were installed in May and June 2007 at 23 Tufts Street, 31-33 Knowlton Street, 95 Franklin Street and 95R Franklin Street. An additional residential SSDS was installed at 18 Morton Street on July 9, 2007 (see Figure 2).

RMR No. 4 covers the monitoring period from July 1 to July 31, 2007. This RMR was prepared to meet the requirements of the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000). An Immediate Response Action (IRA) Transmittal Form (BWSC105) and Interim RMR Checklist are attached, and copies are provided in Attachment A.

1 OPERATING STATUS OF ACTIVE REMEDIAL SYSTEM [310 CMR 40.0027(2)(a)]

RMR No. 4 covers the monitoring period from July 1 to July 31, 2007. This RMR No. 4 describes monitoring associated with two Active Remedial Systems: (i) the Center SSDS; and (ii) the residential SSDSs.

The Center SSDS was designed by GEI and installed by the T. Ford Company of Georgetown, Massachusetts. The system consists of pipes connected to a blower to draw vapors from beneath the building and discharge them through an exhaust pipe above the roof. All of the piping except the exhaust pipe is underground. The slotted pipes were installed beneath six classrooms along the southern side of the Center (Rooms 122, 126, 134, 138, 142 and 146). The blower is currently located in a small temporary enclosure on the southern side of the instruction wing and will be

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operated until the mechanical equipment can be moved to another suitable permanent location. Sub-slab soil gas monitoring points were installed inside the building at six locations to monitor the effectiveness of the SSDS. The six monitoring points were installed in the bathrooms of Classrooms 122, 126, 133, 137, 142 and 146. Figure 3 is the Center site plan.

The residential SSDSs were designed by GEI and installed by Storch Radon Services of Fall River, Massachusetts and Norfolk Environmental of Bridgewater, Massachusetts. The systems consist of pipes connected to a blower to draw vapors from beneath the building and discharge them through an exhaust pipe above the roof. The residential blowers are located on the exterior of the house to prevent draft effects.

2 DATE AND NUMBER OF MONITORING EVENTS [310 CMR 40.0027(2)(b)]

During the monitoring period, we monitored influent and effluent total VOC concentrations three times at the Center's SSDS. The residences were monitored once after start-up to demonstrate vacuum distribution beneath the foundation floors. The dates of the monitoring events for the Center and the residences are shown in Tables 1A and 1B, respectively. Weekly inspection logs and a Monthly Monitoring Form for the Center are included in Attachments B and C, respectively. A summary table of total VOC concentrations measured at the Center through July 31, 2007 are included in Table 2 and graphs are presented in Attachment D.

Between July 1 and 31, 2007, GEI monitored indoor air concentrations at the Center and 18 Morton Street. The monitoring results to date for the Center and the residences are summarized in Tables 3A and 3B, respectively; however, validated data for 18 Morton Street is not yet available.

3 EFFLUENT CONCENTRATIONS [310 CMR 40.0027(2)(c)]

The Center's influent and effluent total VOC concentrations during the monitoring period are summarized in Table 2. Residential effluent concentrations were not monitored during this reporting period.

4 IDENTIFICATION OF DISCHARGES ABOVE PERMISSIBLE DISCHARGE CONCENTRATIONS [310 CMR 40.0027(2)(d)]

The regulatory requirements for off-gas treatment for remedial air emissions are presented in DEP's Policy No. WSC-94-150, "Off-Gas Treatment of Point-Source Remedial Air Emissions." The DEP policy states that off-gas contaminant treatment is not required for SSDSs that produce a total air emission rate of volatile contaminants of less than 100 pounds per year (lbs/yr).

Before installing the Center and residential SSDSs, we estimated that the systems would produce significantly less than 100 lbs/yr of VOCs and therefore did not install off-gas treatment processes. The calculated yearly discharge of chlorinated VOCs at the Center based on the highest soil gas concentration observed since system start-up and highest estimated flow rate of the fan is 6.1 lbs/yr (see Table 4). For the residences at 31-33 Knowlton Street, 23 Tufts Street, 95 Franklin Street and 18 Morton Street, the calculated yearly discharge rates of chlorinated VOCs were based on the highest observed soil gas or indoor air concentration measured at the residence, and the highest flow rate of the fan. The highest discharge rate for the residences was 52 lbs/yr (95 Franklin Street); however, this calculation likely overestimates the actual discharge rate. Effluent concentrations used in the residential calculations are in Table 5. Discharge calculations for the Center and the residences are presented in Table 6.

Based on initial (pre-system start-up) soil gas concentrations from beneath 95R Franklin Street, which are likely concentrated, the total air emission rate of 100 lbs would likely be exceeded. However, since there are two extraction fans combining to withdraw approximately 250 cubic feet per minute (cfm) of air, the resultant dilution due to mixing with some air drawn from inside the building will likely result in mass discharge of less than 100 lbs/yr. In addition, significant decline (up to three orders of magnitude) of sub-slab concentrations has been observed at the Center since system start-up and this trend has likely occurred at the residences. As a result the discharge concentrations from all the residences are likely diluted after initial concentrated soil gas values subside. GEI is in the process of evaluating discharge monitoring at the residential systems.

5 RECOVERY RATES AND/OR VOLUMES [310 CMR 40.0027(2)(e)]

There is no vapor, liquid or solid recovery associated with the operation of the Active Remedial Systems.

6 DISCHARGE VOLUMES [310 CMR 40.0027(2)(f)]

The volume of effluent discharged is not calculated as part of the operation of these Active Remedial Systems.

7 DATE, LOCATION, TYPE AND VOLUME OF REMEDIAL ADDITIVES APPLICATIONS [310 CMR 40.0027(2)(g)]

No remedial additives have been applied as part of these Active Remedial Systems.

8 GROUNDWATER DATA [310 CMR 40.0027(2)(h)]

No groundwater data has been collected as part of these Active Remedial Systems.

9 RELATED MAPS, GRAPHS OR DIAGRAMS [310 CMR 40.0027(2)(i)]

Related tables, maps and inspection logs are included as attachments and referenced in this report.

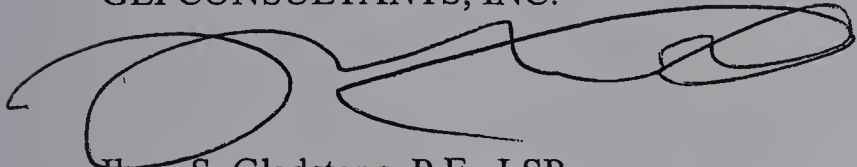
10. LIMITATIONS

This report was prepared for the use of UniFirst, exclusively. The conclusions presented in this report are based solely on the information reported in this document. Additional quantitative information regarding the Site that was not available to us may result in a modification of the findings above. The report has been prepared in accordance with generally accepted geohydrological practices. No warranty, expressed or implied, is made.

Please contact me at (781) 721-4012 or at igladstone@geiconsultants.com if you have any questions regarding this RMR No. 4.

Very truly yours,

GEI CONSULTANTS, INC.



Helen S. Gladstone, P.E., LSP
Vice President

WFS/ISG:drm

Attachments:

Table 1A:	Summary of Monitoring Events – Capuano Center
Table 1B:	Summary of Monitoring Events – Residences
Table 2:	PID Monitoring Data – Capuano Center
Table 3A:	Summary of Testing Results – Indoor Air Samples – Capuano Center
Table 3B:	Summary of Testing Results – Indoor Air Samples – Residences
Table 4:	Summary of Testing Results – Effluent Air Samples – Capuano Center
Table 5:	Summary of Testing Results – Effluent Discharge Estimation - Residences
Table 6:	Summary of Estimated SSDS Discharge Rates
Figure 1:	Site Location Map
Figure 2:	50 Tufts Street Site Plan
Figure 3:	Capuano Center Site Plan
Attachment A:	BWSC105 and Interim RMR Checklist
Attachment B:	Weekly Mechanical Inspection Logs for Capuano Center
Attachment C:	Capuano Center SSDS Field Monitoring Reports
Attachment D:	Graphs of SSDS and Sub-Slab Total VOC Concentrations

c: Stephen Aquilino, UniFirst
Peter Mills, City of Somerville



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Table 1A

Summary of Monitoring Events: July 1, 2007 through July 31, 2007

Capuano Center
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (yes/no)?
7/6/2007	1	SSDS Weekly Mechanical Inspection	-Pressure and VOC concentrations at each manifold pipe, the combined influent, and effluent pipes -System Flow Rate	No
7/13/2007	2	SSDS Weekly Mechanical Inspection	-Pressure and VOC concentrations at each manifold pipe, the combined influent, and effluent pipes -System Flow Rate	No
7/21/2007	3	SSDS Diagnostic Test	-Pressure readings at interior sub-slab monitoring points, and at exterior extraction pipes -VOC readings at interior sub-slab monitoring points	No
7/30/2007	4	SSDS Monthly Monitoring	-Pressure and VOC concentrations at interior sub-slab monitoring points -Pressure and VOC concentrations at exterior extraction pipes. -Pressure and VOC concentrations at manifold pipes, combined influent, and effluent pipes. -System Flow Rate	Yes

Notes:

1. RMR = Remedial Monitoring Report.
2. SSDS = Sub-Slab Depressurization System.
3. VOCs = Volatile Organic Compounds.
4. HVAC = Heating, Ventilation, and Air Conditioning system.
5. VOC measurements collected with a ppb-RAE calibrated to 10 ppm isobutylene.
6. Pressure readings collected using a Dwyer 475-000-FM manamoter.

Table 1B
Summary of Monitoring Events: July 1, 2007 through July 31, 2007
SSDSs at Residences
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (yes/no)?
7/9/2007	1	SSDS Installation at 18 Morton Street	-Vacuum distribution beneath the floor slab	No
7/16/2007	2	SSDS Start-Up at 19 Morton Street	-Vacuum distribution beneath the floor slab	No
7/24/2007	3	Confirmatory Air Sampling at 18 Morton Street	-Ambient Air VOC concentrations	Yes
7/25/2007	4	SSDS Start-UP at 31-33 Knowlton Street	-Vacuum distribution beneath the floor slab	No

Notes:

1. RMR = Remedial Monitoring Report.
2. SSDS = Sub-Slab Depressurization System.
3. VOCs = Volatile Organic Compounds.
4. HVAC = Heating, Ventilation, and Air Conditioning.
5. VOC measurements collected with a ppb-RAE calibrated to 10 ppm isobutylene.
6. Pressure readings collected using a Dwyer 475-000-FM manamoter.

Table 2

PID Monitoring Data: January 1, 2007 to July 31, 2007

Capuano Center
Sommerville, MA

Date	Interior Sub-Slab Monitoring Points					Blower Enclosure Monitoring Points					
	Room 122A	Room 126A	Room 133A	Room 137A	Room 142A	Room 146A	Manifold 12	Manifold 13	Manifold 14	Combined Influent	Effluent
1/31/07	440	641	469	800	412	3,400	NM	NM	NM	NM	NM
2/1/07	492,000	305,000	975,000	1,244,000	210	331,000	NM	NM	NM	NM	NM
2/2/07	1,700	6,200	4,000	2,400	11,100	47,000	0	0	1,100	2,000	1,400
2/3/07	1,328	5,468	2,081	1,328	1,743	2,213	183	652	317	1,090	785
2/4/07	746	4,750	297	652	1,255	2,565	241	436	328	528	456
2/5/07	272	1,951	1,164	1,595	1,955	1,538	213	474	412	483	472
2/6/07	613	3,563	1,299	1,967	2,412	12,100	285	4,479	787	633	669
2/7/07	NM	NM	NM	NM	NM	NM	1,715	993	1,385	738	979
2/8/07	974	3,392	933	1,399	786	4,395	118	147	153	192	180
3/1/07	NM	NM	NM	NM	NM	NM	800	1,000	1,000	800	1,000
3/8/07	417	580	441	270	151	1,176	958	425	602	534	428
3/14/07	NM	NM	NM	NM	NM	NM	22	273	111	163	86
3/22/07	NM	NM	NM	NM	NM	NM	144	0	0	0	1,058
3/29/07	NM	NM	NM	NM	NM	NM	85	0	0	0	600
4/6/07	NM	NM	NM	NM	NM	NM	21	115	70	43	41
4/27/07	195	14,000	4,145	6,150	1,250	3,725	37	169	152	151	128
5/4/07	NM	NM	NM	NM	NM	NM	330	220	280	170	200
5/11/07	NM	NM	NM	NM	NM	NM	389	57	356	245	60
5/18/07	200	10,300	430	520	420	415	40	90	83	75	50
5/25/07	NM	NM	NM	NM	NM	NM	1,150	500	560	700	681
6/1/07	NM	NM	NM	NM	NM	NM	6,150	8,000	7,565	5,413	6,122
6/8/07	NM	NM	NM	NM	NM	NM	95	103	125	35	47
6/15/07	NM	NM	NM	NM	NM	NM	153	203	236	175	190
6/22/07	NM	NM	NM	NM	NM	NM	31	106	154	93	83
7/6/07	NM	NM	NM	NM	NM	NM	1,982	468	0	0	0
7/13/07	NM	NM	NM	NM	NM	NM	28	23	36	15	0
7/30/07	800	50	90	53	0	36	191	247	267	137	171

General Notes:

1. ppbV = parts per billion by volume
2. PID = photoionization detector
3. All measurements were collected with a PID, calibrated to isobutylene.

Qualifying Notes:

NM = Not Measured

Table 3A
Summary of Testing Results - Indoor Air Samples: January 1, 2007 to July 31, 2007
Capuano Center
Somerville, Massachusetts

Sample Location: Sample Name: Sample Date: Collected By: Units:		Room 122				Room 126													
		150-Glen-Room 122		150-Glen-Rm 122		150 Glen-Room 126		150 Glen-Room 100 (Field Duplicate of 150 Glen-Room 126)		150 Glen-Rm 126		150 Glen-Rm 126		150 Glen-Rm 126		150 Glen-Rm 126		150 Glen-Rm 126	
		1/6/2007 GEI		2/7/2007 GEI		1/13/2007 GEI		1/13/2007 GEI		2/7/2007 GEI		3/8/2007 GEI		4/20/2007 GEI		5/17/2007 GEI		7/30/2007 GEI	
		ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m3	ppbV	ug/m3	ppbV	ug/m3	ppbV
Analyte	Method																		
Volatile Organic Compounds (VOCs)	TO-15																		
Carbon tetrachloride		0.51 JS	0.081 JS	0.69 J	0.11 J	0.69 J	0.11 J	0.63 J	0.10 J	0.94 J	0.15 J	<1.3	<0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.60 J	0.095 J
1,1-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
1,1-Dichloroethylene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0. 79	< 0.20	< 0. 79	< 0.20	<0.79	<0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
cis, 1,2-Dichloroethene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	0.88 J	0.13 J	0.75 J	0.11 J	< 1.4	< 0.20	< 1.4	<0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets
2. ug/m³ = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. "***" = Accutest mistakenly referred to the sample name with an "8" instead of the correct "B".

Qualifying Notes

- J The reported result is below the laboratory reporting limit and is estimated.
- S The result is estimated due to Internal Standard recovery outside of the control limits.

Table 3A
Summary of Testing Results - Indoor Air Samples: January 1, 2007 to July 31, 2007
Capuano Center
Somerville, Massachusetts

Sample Location: Sample Name: Sample Date: Collected By: Units:		Room 138																			
		RM138		150 Glen-Room 138		150 Glen-Room 138		150 Glen-Room 138 (Alpha Dupliate of 150 Glen-Room 138)		150 Glen-Rm 138		150 Glen-Rm 139 (Field Duplicate of 150- Glen-Rm 138)		150-Glen-Rm 138		150-Glen-Rm 139 (Field Duplicate of 150- Glen-Rm 138)		150-Glen-Rm 138		150-Glen-Rm 139 (Field Duplicate of 150- Glen-Rm 138)	
		1/2/2007 GEI		1/6/2007 GEI		1/13/2007 GEI		1/13/2007 GEI		2/7/2007 GEI		2/7/2007 GEI		3/8/2007 GEI		3/8/2007 GEI		4/20/2007 GEI		4/20/2007 GEI	
		ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV
Analyte	Method																				
Volatile Organic Compounds (VOCs)	TO-15																				
Carbon tetrachloride		< 1.3	< 0.20	0.49 JS	0.078 JS	0.82 J	0.13 J	< 0.126	< 0.020	0.75 J	0.12 J	0.52 J	0.082 J	<1.3	<0.20	<1.3	<0.20	< 1.3	<0.20	< 1.3	<0.20
1,1-Dichloroethane		0.45 J	0.11 J	0.77 JS	0.19 JS	0.57 J	0.14 J	< 0.081	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	< 0.81	<0.20	< 0.81	<0.20
1,1-Dichloroethylene		< 0.79	< 0.20	2.1 S	0.54 S	< 0.79	< 0.20	< 0.079	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	< 0.79	<0.20	< 0.79	<0.20
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.0819	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	< 0.81	<0.20	< 0.81	<0.20
cis, 1,2-Dichloroethene		< 0.79	< 0.20	0.83 S	0.21 S	< 0.79	< 0.20	< 0.079	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	< 0.79	<0.20	< 0.79	<0.20
Tetrachloroethylene (PCE)		14	2	60 S	8.8 S	20	3	32.6	4.8	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	<0.20	< 1.4	<0.20	< 1.4	<0.20	< 1.4	<0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20
Trichloroethylene (TCE)		2.3	0.42	7 S	1.3 S	3.1	0.57	4.26	0.794	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20

General Notes

1.
- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets
2.
- ug/m³ = micrograms per cubic meter.
3.
- ppbV = parts per billion by volume.
4.
- "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5.
- *** = Accutest mistakenly referred to the sample name with an "8" instead of the correct "B".

Qualifying Notes

- J
- The reported result is below the laboratory reporting limit and is estimated.
- S
- The result is estimated due to Internal Standard recovery outside of the control limits.

Table 3A
Summary of Testing Results - Indoor Air Samples: January 1, 2007 to July 31, 2007
Capuano Center
Somerville, Massachusetts

Sample Location: Sample Name: Sample Date: Collected By: Units:		Room 138 (continued)								Room 141									
		150-Glen-Rm 138		150-Glen-Rm 139 (Field Duplicate of 150-Glen-Rm 138)		150-Glen-Rm 138		150-Glen-Rm 139 (Field Duplicate of 150-Glen-Rm 138)		150 Glen-Room 141		150-Glen-Rm 141		150-Glen-Rm 141		150-Glen-Rm 141		150-Glen-Rm 141	
		5/17/2007 GEI		5/17/2007 GEI		7/30/2007 GEI		7/30/2007 GEI		1/6/2007 GEI		3/8/2007 GEI		4/20/2007 GEI		5/17/2007 GEI		7/30/2007 GEI	
		ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV
Analyte	Method																		
Volatile Organic Compounds (VOCs)	TO-15																		
Carbon tetrachloride		< 1.3	<0.20	< 1.3	<0.20	0.61 J	0.097 J	0.69 J	0.11 J	0.45 JS	0.071 JS	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20
1,1-Dichloroethane		< 0.81	<0.20	< 0.81	<0.20	< 0.81	<0.20	< 0.81	<0.20	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20
1,1-Dichloroethylene		< 0.79	<0.20	< 0.79	<0.20	< 0.79	<0.20	< 0.79	<0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
1,2-Dichloroethane		< 0.81	<0.20	< 0.81	<0.20	< 0.81	<0.20	< 0.81	<0.20	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20
cis, 1,2-Dichloroethene		< 0.79	<0.20	< 0.79	<0.20	< 0.79	<0.20	< 0.79	<0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
Tetrachloroethylene (PCE)		< 1.4	<0.20	< 1.4	<0.20	1.2 J	0.17 J	1.1 J	0.16 J	< 1.4	< 0.20	< 1.4	<0.20	< 1.4	<0.20	< 1.4	<0.20	< 1.4	<0.20
1,1,1-Trichloroethane		< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20
Trichloroethylene (TCE)		< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20

- General Notes**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets
 2. ug/m³ = micrograms per cubic meter.
 3. ppbV = parts per billion by volume.
 4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
 5. "***" = Accutest mistakenly referred to the sample name with an "8" instead of the correct "B".

- Qualifying Notes**
- J The reported result is below the laboratory reporting limit and is estimated.
- S The result is estimated due to Internal Standard recovery outside of the control limits.

Table 3A
Summary of Testing Results - Indoor Air Samples: January 1, 2007 to July 31, 2007
Capuano Center
Somerville, Massachusetts

Sample Location: Sample Name: Sample Date: Collected By: Units:		Room 142													
		RM142		150 Glen-Room 142		150 Glen-Rm 142		150-Glen-Rm 142		150-Glen-Rm 142		150-Glen-Rm 142		150-Glen-Rm 142	
		1/2/2007 GEI		1/6/2007 GEI		2/7/2007 GEI		3/8/2007 GEI		4/20/2007 GEI		5/17/2007 GEI		7/30/2007 GEI	
		ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV	ug/m ³	ppbV
Analyte	Method														
Volatile Organic Compounds (VOCs)		TO-15													
Carbon tetrachloride		< 1.3	< 0.20	0.52 JS	0.083 JS	0.82 J	0.13 J	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20	0.63 J	0.20 J
1,1-Dichloroethane		1.4	0.35	1.2 S	0.29 S	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20
1,1-Dichloroethylene		0.87	0.22	2.5 S	0.63 S	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	1	0.25
cis, 1,2-Dichloroethene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
Tetrachloroethylene (PCE)		28	4.1	45 S	6.6 S	< 1.4	< 0.20	< 1.4	<0.20	< 1.4	<0.20	< 1.4	<0.20	< 1.4	<0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	0.33 JS	0.061 JS	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20
Trichloroethylene (TCE)		3.7	0.69	5.4 S	1 S	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets
2. ug/m³ = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. "***" = Accutest mistakenly referred to the sample name with an "8" instead of the correct "B".

Qualifying Notes

- J The reported result is below the laboratory reporting limit and is estimated.
- S The result is estimated due to Internal Standard recovery outside of the control limits.

Table 3A
Summary of Testing Results - Indoor Air Samples: January 1, 2007 to July 31, 2007
Capuano Center
Somerville, Massachusetts

Sample Location: Sample Name: Sample Date: Collected By: Units:		Room 146																			
		150-Glen-Room 146A		150-Glen-Room 146B		150-Glen-Room 146C (Field Duplicate of 150-Glen-Room 146B)		RM146		150-Glen-Room 146		150-Glen-Rm 146		150-Glen-Rm 146		150-Glen-Rm 146		150-Glen-Rm 146		150-Glen-Rm 146	
		12/27/2006 GEI		12/28/2006 GEI		12/28/2006 GEI		1/2/2007		1/6/2007 GEI		2/7/2007 GEI		3/8/2007 GEI		4/20/2007 GEI		5/17/2007 GEI		7/30/2007 GEI	
		ug/m³	ppbV	ug/m³	ppbV	ug/m³	ppbV	ug/m³	ppbV	ug/m³	ppbV	ug/m³	ppbV	ug/m³	ppbV	ug/m³	ppbV	ug/m³	ppbV	ug/m³	ppbV
Analyte	Method																				
Volatile Organic Compounds (VOCs)	TO-15																				
Carbon tetrachloride		1.1 J	0.18 J	< 1.3	< 0.20	0.49 J	0.078 J	0.63 J	0.10 J	< 1.3	< 0.20	0.75 J	0.12 J	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20	0.62 J	0.099 J
1,1-Dichloroethane		10	2.5	3.6	0.88	3.3	0.82	0.53 J	0.13 J	0.57 JS	0.14 JS	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20
1,1-Dichloroethylene		7.9	2	4	1	3.9	0.99	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20	<0.81	<0.20
cis, 1,2-Dichloroethene		3.3	< 0.83	1.3	0.33	1.2	0.31	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20	<0.79	<0.20
Tetrachloroethylene (PCE)		186	27.5	83.4	12.3	85.4	12.6	11	1.6	26 S	3.8 S	< 1.4	< 0.20	< 1.4	<0.20	< 1.4	<0.20	< 1.4	<0.20	1.0 J	0.15 J
1,1,1-Trichloroethane		2.1	0.38	0.82 J	0.15 J	0.71 J	0.13 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20
Trichloroethylene (TCE)		37	6.8	10	1.9	11	2.1	1.7	0.32	3 S	0.56 S	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	<0.20

- General Notes**
- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets
 - ug/m³ = micrograms per cubic meter.
 - ppbV = parts per billion by volume.
 - "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
 - "" = Accutest mistakenly referred to the sample name with an "8" instead of the correct "B".

- Qualifying Notes**
- J The reported result is below the laboratory reporting limit and is estimated.
- S The result is estimated due to Internal Standard recovery outside of the control limits.

Table 3B
Summary of Testing Results - Indoor Air Samples
SSDSs at Residences
Somerville, Massachusetts

Sample Address: Sample Name: Sample Date: Sample Location:		23 Tufts Street		95R Franklin Street		95 Franklin Street	
		045162-23TUFTS-B 5/26/07	045162-23TUFTS-1 5/26/07	045162-95RFRANK- 6/5/07	045162-95RFRANK-1 6/5/07	045162-95FRAN-B1 6/7/07	045162-95FRAN-1 6/7/07
		Basement	First Floor	Crawl Space	First Floor	Basement	First Floor
Analyte	Units:	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv
	Method						
Volatile Organic Compounds (VOCs)	TO-15						
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 0.20	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 0.20	< 0.20
1,1,1-Trichloroethane		1.1 J	0.099 J	0.51 J	0.093 J	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
				< 6.3	< 1.0	0.69 J	0.63 J
				8.2	1.2	8.1	8.8
				< 5.5	< 1.0	< 1.1	< 1.1
				< 5.4	< 1.0	< 1.1	< 1.1
						0.11 J	0.10 J
						1.2	1.3
						< 0.20	< 0.20
						< 0.20	< 0.20

General Notes

- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
- µg/m³ = micrograms per cubic meter.
- ppbv = parts per billion by volume.
- "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
- Results for confirmatory indoor air testing at 31-33 Knowlton Street and 18 Morton Street are not yet available.

Qualifying Notes

- The reported result is below the laboratory reporting limit and is estimated.

Table 4

Summary of Testing Results - Effluent Air Samples

Capuano Center
Somerville, Massachusetts

Sample Location: Sample Name: Sample Date: Collected By:		Blower Effluent												Downwind on Roof							
		150Glen-Effluent 2/8/07 GEI		150Glen-Roof 2/8/07 GEI		150Glen-Roof B 2/8/07 GEI		150Glen-Roof 3/8/07 GEI		150Glen-Roof 4/20/07 GEI		150Glen-Roof 5/18/07 GEI									
		µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv								
Analyte	Units: Method																				
Volatile Organic Compounds (VOCs)		TO-15																			
Acetone		45.4	19.1 B	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT								
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20								
1,1-Dichloroethane		24	6	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20								
1,1-Dichloroethylene		10	2.6	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20								
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20								
cis,1,2-Dichloroethene		15	3.8	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20								
Methyl ethyl ketone		380 S	129 S	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT								
Tetrachloroethylene (PCE)		577 S	85.1 S	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20								
Tetrahydrofuran		571 S	194 S	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT								
1,1,1-Trichloroethane		3.9	0.72	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20								
Trichloroethylene (TCE)		98.3	18.3	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20								

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT= The sample was not tested for this analyte.
6. The sample collected on August 9, 2007 is part of the July Monthly Sampling Round. It was not collected at the same time (7/31/07) as the indoor air samples for the sampling round because of access issues.

Qualifying Notes

- S The result is estimated due to Internal Standard recovery outside of the control limits.
- B Compound present in the associated method blank.

Table 5

Summary of Testing Results - Effluent Discharge Estimates
SSDSs at Residences
Somerville, Massachusetts

Sample Location:		23 Tufts		31/33 Knowlton		18 Morton Street		95 Franklin	
Sample Name:		045160-23 Tufts-B		31-KNOW-SS2		18-MORT-SS2		95-FRANK-SS2	
Sample Date:		6/28/06		3/5/07		3/19/07		4/19/07	
Matrix:		Indoor Air		Sub-Slab		Sub-Slab		Sub-Slab	
Analyte	Units:								
	Method	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv
Volatile Organic Compounds (VOCs)									
Carbon tetrachloride		< 1.3		< 0.20		< 2.5		0.63 J	
1,1-Dichloroethane		< 0.81		< 0.20		2.6		133	
1,1-Dichloroethylene		< 0.79		< 0.20		69.4		90.8	
1,2-Dichloroethane		1.9		0.91		< 1.6		< 0.81	
cis,1,2-Dichloroethene		< 0.79		< 0.20		< 1.6		161	
trans,1,2-Dichloroethene		< 0.79		< 0.20		< 1.6		4.4	
Tetrachloroethylene (PCE)		125		18.5		1180		15500	
1,1,1-Trichloroethane		1.5		0.28		27		234	
Trichloroethylene (TCE)		1.0 J		0.19 J		97.3		447	
Vinyl Chloride		< 0.51		< 0.20		< 1		1.3	
Total VOCs		128	19.7	2.6	0.4	1380	215	16600	2510

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT= The sample was not tested for this analyte.

Qualifying Notes

- J The reported result is below the laboratory reporting limit and is estimated.

Table 6
Summary of Estimated SSDS Discharge Rates
50 Tufts Street
Somerville, Massachusetts

VARIABLE	UNITS	CAPUANO CENTER	31-33 KNOWLTON STREET	18 MORTON STREET	23 TUFTS STREET	95 FRANKLIN STREET
Total Chlorinated VOC Effluent Concentration	µg/m ³	1,725	2.6	1,380	128	16,600
	kg/m ³	1.73E-06	2.60E-09	1.38E-06	1.28E-07	1.66E-05
	lbs/m ³	3.80E-06	5.72E-09	3.04E-06	2.82E-07	3.65E-05
	lbs/cf	1.08E-07	1.62E-10	8.60E-08	8.00E-09	1.03E-06
Effluent Flow Rate	cfm	108	50	95	95	95
Estimated Mass Discharge	lbs/minute	1.16E-05	8.10E-09	8.17E-06	7.60E-07	9.83E-05
	lbs/day	1.67E-02	1.17E-05	1.18E-02	1.09E-03	1.42E-01
	lbs/year	6.1	0.004	4.3	0.4	52

Notes:

1. Total chlorinated volatile organic compounds (VOCs) calculated from February 8, 2007 effluent air sample.
2. Total chlorinated VOCs calculated from sub-slab soil or indoor air testing results.
3. Effluent flow rate derived from differential pressure readings of the exhaust stack pipe.
4. µg/m³ = micrograms per cubic meter.
5. kg/m³ = kilograms per cubic meter.
6. lbs/m³ = pounds per cubic meter.
7. cfm = cubic feet per minute.
8. Conversion factors used: 1 µg = 1 x 10⁻⁹ kg, 1 kg = 2.2 lbs, 1 m = 3.28 ft, 1 m³ = 35.3 cf



Geotechnical
Environmental and
Water Resources
Engineering





0 1000 2000 4000 6000
SCALE, FEET



This Image provided by MassGIS is taken from
U.S.G.S. Topographic 7.5 X 15 Minute Series
Boston North, MA Quadrangle, 1985.
Datum is National Geodetic Vertical Datum (NGVD).
Contour Interval is 3 Meters.

Remedial Monitoring Report No. 4
50 Tufts Street
Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts



SITE LOCATION MAP

Project 04516-2

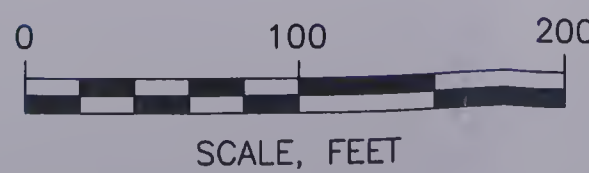
August 2007

Fig. 1



GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.




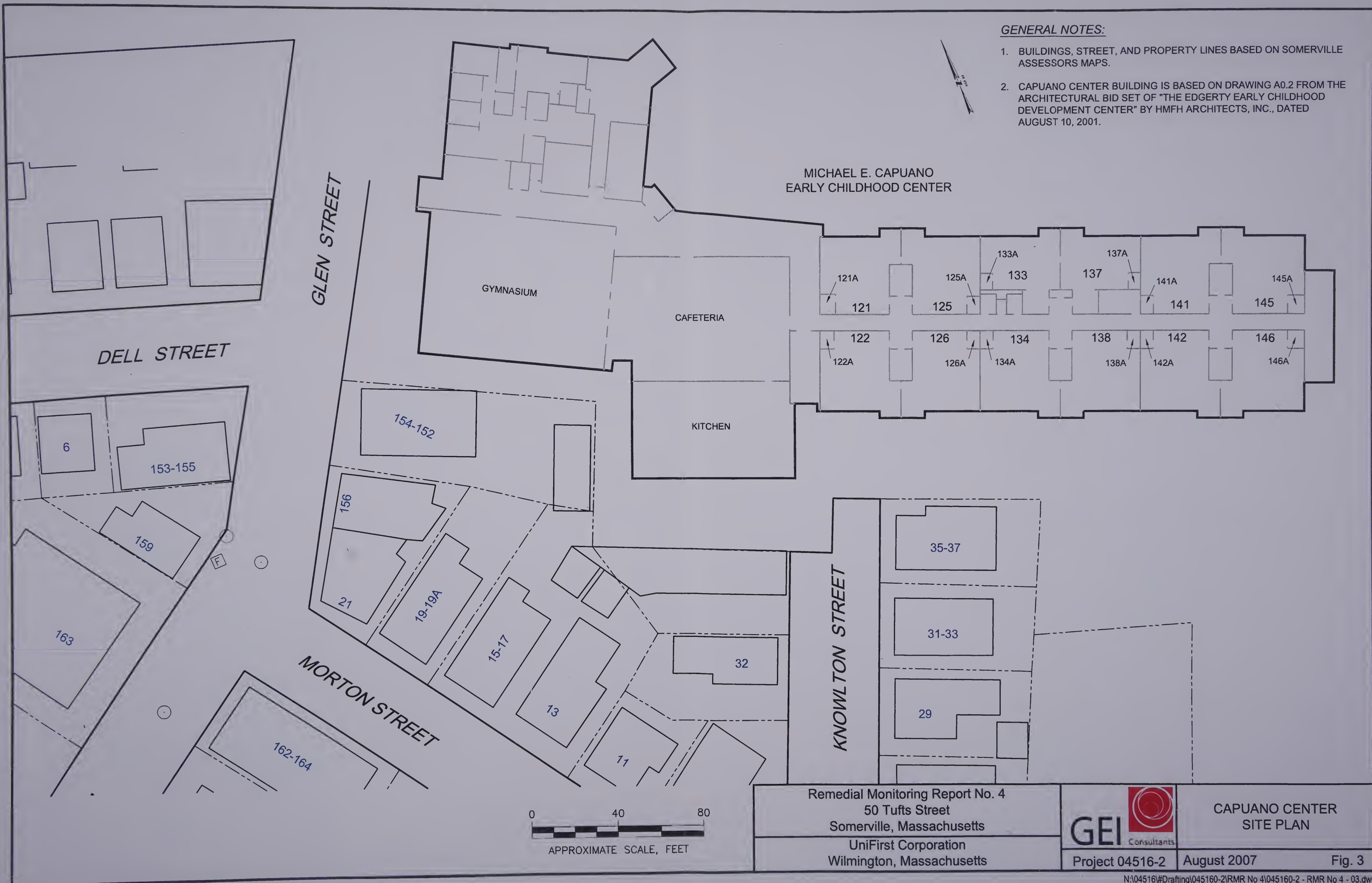
Remedial Monitoring Report No. 4 50 Tufts Street Somerville, Massachusetts		 GEI Consultants	50 TUFTS STREET SITE	
UniFirst Corporation Wilmington, Massachusetts			Project 04516-2	August 2007

Fig. 2

GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.



Remedial Monitoring Report No. 4
 50 Tufts Street
 Somerville, Massachusetts
 UniFirst Corporation
 Wilmington, Massachusetts



CAPUANO CENTER
 SITE PLAN

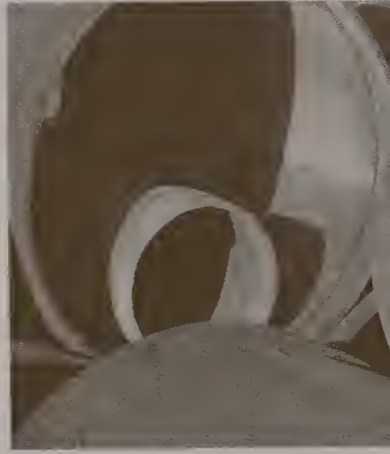
Project 04516-2

August 2007

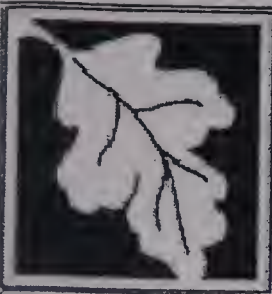
Fig. 3



Geotechnical
Environmental and
Water Resources
Engineering



ATTACHMENT A
BWSC105 and Interim RMR Checklist



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM**

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 23246

A. RELEASE OR THREAT OF RELEASE LOCATION:

1. Release Name/Location Aid: _____
2. Street Address: 50 Tufts Street
3. City/Town: Somerville 4. ZIP Code: 02149
5. UTM Coordinates: a. UTM N: 4694322 b. UTM E: 328049
- ☐ 6. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.
☐ a. Tier IA ☐ b. Tier IB ☒ c. Tier IC ☐ d. Tier II
- ☐ 7. Check here if this location is Adequately Regulated, pursuant to 310 CMR 40.0110-0114. Specify Program (check one):
☐ a. CERCLA ☐ b. HSWA Corrective Action ☐ c. Solid Waste Management
☐ d. RCRA State Program (21C Facilities)

B. THIS FORM IS BEING USED TO: (check all that apply)

1. List Submittal Date of Initial IRA Written Plan (if previously submitted): 11/13/2006
(mm/dd/yyyy)
- ☐ 2. Submit an **Initial IRA Plan**.
- ☐ 3. Submit a **Modified IRA Plan** of a previously submitted written IRA Plan.
- ☐ 4. Submit an **Imminent Hazard Evaluation**. (check one)
☐ a. An Imminent Hazard exists in connection with this Release or Threat of Release.
☐ b. An Imminent Hazard does not exist in connection with this Release or Threat of Release.
☐ c. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release, and further assessment activities will be undertaken.
☐ d. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release. However, response actions will address those conditions that could pose an Imminent Hazard.
- ☐ 5. Submit a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard**.
- ☐ 6. Submit an **IRA Status Report**.
- ☒ 7. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)
a. Type of Report: (check one) ☐ i. Initial Report ☒ ii. Interim Report ☐ iii. Final Report
b. Frequency of Submittal: (check all that apply)
☒ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.
☒ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.
☐ iii. A Remedial Monitoring Report(s) submitted concurrent with a IRA Status Report.
c. Number of Remedial Systems and/or Monitoring Programs: 2

A separate BWSC105A, IRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3

-

23246

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 8. Submit an **IRA Completion Statement**.

☐ a. Check here if future response actions addressing this Release or Threat of Release notification condition will be conducted as part of the Response Actions planned or ongoing at a Site that has already been Tier Classified under a different Release Tracking Number (RTN). When linking RTNs, rescoring via the NRS is required if there is a reasonable likelihood that the addition of the new RTN(s) would change the classification of the site.

b. Provide Release Tracking Number of Tier Classified Site (Primary RTN): ☐ - ☐

These additional response actions must occur according to the deadlines applicable to the Primary RTN. Use the Primary RTN when making all future submittals for the site unless specifically relating to this Immediate Response Action.

☐ 9. Submit a **Revised IRA Completion Statement**.

(All sections of this transmittal form must be filled out unless otherwise noted above)

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT IRA:

1. Identify Media Impacted and Receptors Affected: (check all that apply)

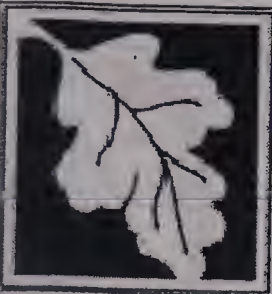
- ☒ a. Air ☒ b. Basement ☒ c. Critical Exposure Pathway ☒ d. Groundwater ☒ e. Residence
☐ f. Paved Surface ☐ g. Private Well ☐ h. Public Water Supply ☒ i. School ☐ j. Sediments
☐ k. Soil ☐ l. Storm Drain ☐ m. Surface Water ☐ n. Unknown ☐ o. Wetland ☐ p. Zone 2
☐ q. Others Specify: _____

2. Identify Oils and Hazardous Materials Released: (check all that apply)

- ☐ a. Oils ☒ b. Chlorinated Solvents ☐ c. Heavy Metals
☐ d. Others Specify: _____

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply, for volumes list cumulative amounts)

- | | |
|--|---|
| <input type="checkbox"/> 1. Assessment and/or Monitoring Only | <input type="checkbox"/> 2. Temporary Covers or Caps |
| <input type="checkbox"/> 3. Deployment of Absorbent or Containment Materials | <input type="checkbox"/> 4. Temporary Water Supplies |
| <input checked="" type="checkbox"/> 5. Structure Venting System | <input type="checkbox"/> 6. Temporary Evacuation or Relocation of Residents |
| <input type="checkbox"/> 7. Product or NAPL Recovery | <input type="checkbox"/> 8. Fencing and Sign Posting |
| <input type="checkbox"/> 9. Groundwater Treatment Systems | <input type="checkbox"/> 10. Soil Vapor Extraction |
| <input type="checkbox"/> 11. Bioremediation | <input type="checkbox"/> 12. Air Sparging |



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D. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply, for volumes list cumulative amounts)

☐ 13. Excavation of Contaminated Soils

☐ a. Re-use, Recycling or Treatment

☐ i. On Site Estimated volume in cubic yards _____

☐ ii. Off Site Estimated volume in cubic yards _____

ii.a. Receiving Facility: _____ Town: _____ State: _____

ii.b. Receiving Facility: _____ Town: _____ State: _____

iii. Describe: _____

☐ b. Store

☐ i. On Site Estimated volume in cubic yards _____

☐ ii. Off Site Estimated volume in cubic yards _____

ii.a. Receiving Facility: _____ Town: _____ State: _____

ii.b. Receiving Facility: _____ Town: _____ State: _____

☐ c. Landfill

☐ i. Cover Estimated volume in cubic yards _____

Receiving Facility: _____ Town: _____ State: _____

☐ ii. Disposal Estimated volume in cubic yards _____

Receiving Facility: _____ Town: _____ State: _____

☐ 14. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount: _____

b. Receiving Facility: _____ Town: _____ State: _____

c. Receiving Facility: _____ Town: _____ State: _____

☐ 15. Removal of Other Contaminated Media:

a. Specify Type and Volume: _____

b. Receiving Facility: _____ Town: _____ State: _____

c. Receiving Facility: _____ Town: _____ State: _____

☒ 16. Other Response Actions:

Describe: Temporary air purifiers and/or sub-slab depressurization systems

☐ 17. Use of Innovative Technologies:

Describe: _____



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E. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B of this form indicates that an **Immediate Response Action Plan** is being submitted, the response action(s) that is(are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is(are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that an **Imminent Hazard Evaluation** is being submitted, this Imminent Hazard Evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the assessment activity(ies) undertaken to support this Imminent Hazard Evaluation comply(ies) with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> if Section B of this form indicates that an **Immediate Response Action Status Report** and/or a **Remedial Monitoring Report** is(are) being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

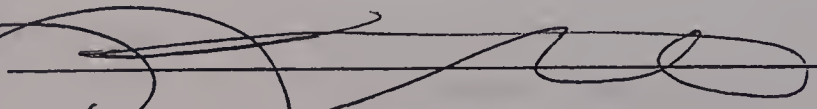
> if Section B of this form indicates that an **Immediate Response Action Completion Statement** or a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard** is being submitted, the response action(s) that is(are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is(are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 9719

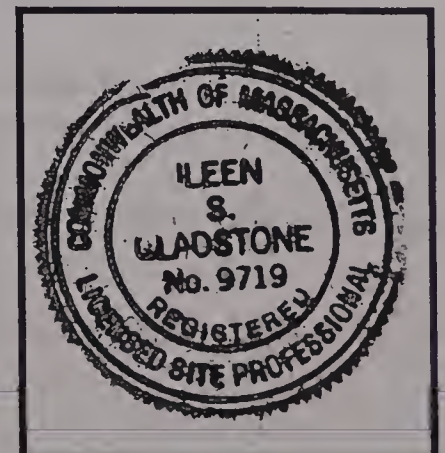
2. First Name: Ileen S. 3. Last Name: Gladstone

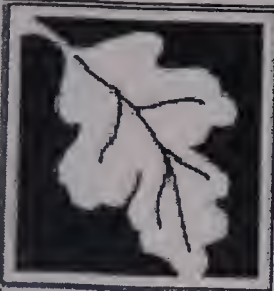
4. Telephone: (781) 721-4012 5. Ext.: 6. FAX: (781) 721-4073

7. Signature: 

8. Date: 8/30/07
(mm/dd/yyyy)

9. LSP Stamp:





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IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
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F. PERSON UNDERTAKING IRA:

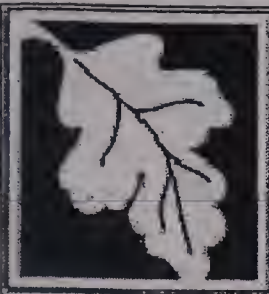
1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions
2. Name of Organization: UniFirst Corp.
3. Contact First Name: Stephen 4. Last Name: Aquilino
5. Street: 68 Jonspin Road 6. Title: Property Management
7. City/Town: Wilmington 8. State: MA 9. ZIP Code: 01887
10. Telephone: (800) 347-7880 11. Ext.: 12. FAX:

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING IRA:

- ☒ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter
☒ e. Other RP or PRP Specify: Other PRPs
- ☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- ☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- ☐ 4. Any Other Person Undertaking IRA Specify Relationship:

H. REQUIRED ATTACHMENT AND SUBMITTALS:

- ☐ 1. Check here if any Remediation Waste, generated as a result of this IRA, will be stored, treated, managed, recycled or reused at the site following submission of the IRA Completion Statement. If this box is checked, you must submit one of the following plans, along with the appropriate transmittal form.
☐ a. A Release Abatement Measure (RAM) Plan (BWSC106) ☐ b. Phase IV Remedy Implementation Plan (BWSC108)
- ☐ 2. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
- ☒ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health were notified of the implementation of an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.
- ☐ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health were notified of the submittal of a Completion Statement for an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.
- ☐ 5. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to the DEP Regional Office.
- ☒ 6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



Massachusetts Department of Environmental Protection
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BWSC105

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM

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I. CERTIFICATION OF PERSON UNDERTAKING IRA:

1. I, Stephen Aquilino, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: Stephen Aquilino 3. Title: Property Management
Signature

4. For: Stephen Aquilino 5. Date: 8-31-07
(Name of person or entity recorded in Section F) (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section F.

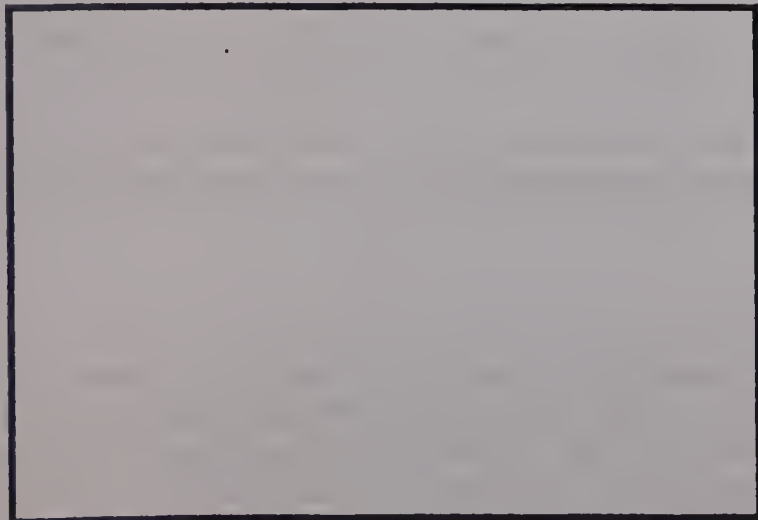
7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. FAX: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

Interim Remedial Monitoring Report (RMR) Checklist
Pursuant to 310 CMR 40.0027

Release Tracking Number

3 - 23246

Site Location:

Site Name: _____

Street Address: **50 Tufts Street**

City/Town: **Somerville**

ZIP Code: **02145**

Pursuant to 310 CMR 40.0027, the following information is required as part of a Remedial Monitoring Report:

- ☒ Number and Description of Active Remedial System(s) or Active Remedial Monitoring Program(s) – include type of system, remedial additives applied, mode of operation, and where the system effluent discharges
- ☒ Monitoring Frequency – include date(s) and number of monitoring events for reporting period
- ☒ Operating Status of Active Remedial Systems – include information regarding any system shutdown during the reporting period and the date/duration of shutdown
- ☒ Effluent Concentrations – provide data for all monitoring events, include information regarding any discharges above permissible discharge concentrations
- ☒ Recovery Rates and/or Volumes
- ☒ Discharge Volumes
- ☒ Date, Location, Type, and Volume of Remedial Additive Applications
- ☒ Groundwater Data – sampling results, monitoring data, etc.
- ☒ Related Maps, Graphs or Diagrams
- ☒ Other Supporting Documentation – narrative, laboratory data, etc.

Summary Statements: (check all that apply for the current reporting period)

The response actions are being conducted as part of a(n):

- ☒ IRA ☐ RAM ☐ URAM ☐ Phase V ☐ ROS ☐ Class C RAO

Submittal Frequency:

- ☒ Monthly (IH/SRM) ☐ Concurrent with Status Reports

- ☒ All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.
- ☒ There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.
- ☒ The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

Note to users: This Interim Remedial Monitoring Report (RMR) Checklist is for hardcopy submittals only. This form may be used through April 3, 2007. On or after this date, all Remedial Monitoring Reports must be submitted to the Department electronically pursuant to 310 CMR 40.0027(6). The Remedial Monitoring Report is currently available through eDEP as part of the electronic online submittal of the BWSC105 Immediate Response Action (IRA) Transmittal Form, BWSC106 Release Abatement Measure (RAM) Transmittal Form, BWSC108 Comprehensive Response Action Transmittal Form, and BWSC119 Utility-Related Abatement Measure (URAM) Transmittal Form.



Geotechnical
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ATTACHMENT B

Weekly Mechanical Inspection Logs for Capuano Center

Weekly Mechanical Inspection Log for Capuano Center

GENERAL INFORMATION

GEI Field Representatives: T. Daigle
T. Chase
Date: 07/06/07
Weather: sunny, 80's

Start-time of monitoring work: 13:00
End-time of monitoring work: 13:45
System Status: ON

INSTRUMENTATION INFORMATION

Instrument	PID (ppb)	Manometer (in H ₂ O)
Manufacturer	Pro-Rae Systems	Dwyer
Model	ppb-RAE	Mark III-475-0000 Series
GEI Identification No.	PINE	NA
Calibrant	10 ppm Isobutylene	NA
Successful Calibration	Yes	Zeroed before each reading

FIELD MEASUREMENTS

Shed Secure? YES Discharge Pressure Port

Condensate Accumulated? NO

Condensate Drained? NO

Insert Increment	Pressure (in. H ₂ O)
0.25"	0.097
0.5"	0.101
1.0"	0.109
2.0"	0.119
	0.1065
	Average Pressure (in. H ₂ O)
	113
	Average Flow Rate (cfm)

Shed Pressure/VOC Measurements

Port ID	Typical Pressure Range	Pressure	Typical Range of VOCs (ppb)	VOC (ppb)
Manifold 12	-0.300 to -0.500	-0.212	0 to 2000	0
Manifold 13	-0.300 to -0.500	-0.208	0 to 5000	0
Manifold 14	-0.300 to -0.500	-0.215	0 to 2000	0
Combined Influent	-0.600 to -0.700	-0.395	0 to 2000	0
Effluent	0.480 to 0.600	0.621	0 to 2000	0

Comments

ppb RAE malfunction on 7-6-07 after measuring 30 ppm at another location at the Site earlier in the day. T. Daigle returned on 7-10-07 with new ppb RAE from PINE to re-measure VOC readings (all zero). Pressure readings are from 7-6-07.

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126. Manifold 13 is the manifold pipe for rooms 134 and 138. Manifold 14 is the manifold pipe for rooms 142 and 146.

Weekly Mechanical Inspection Log for Capuano Center

GENERAL INFORMATION

GEI Field Representatives: S. Slater

Date: 07/13/07
Weather: ~75° F, Sunny

Start-time of monitoring work: 11:15
End-time of monitoring work: 11:50
System Status: ON

INSTRUMENTATION INFORMATION

Instrument	PID (ppb)	Manometer (in H ₂ O)
Manufacturer	Pro-Rae Systems	Dwyer
Model	ppb-RAE	Mark III-475-0000 Series
GEI Identification No.	PINE	NA
Calibrant	10 ppm Isobutylene	NA
Successful Calibration	Yes	Zeroed before each reading

FIELD MEASUREMENTS

Shed Secure? YES Discharge Pressure Port

Condensate Accumulated? NO

Condensate Drained? NA

Insert Increment	Pressure (in. H ₂ O)
0.25"	0.08
0.5"	0.099
1.0"	0.105
2.0"	0.109
	0.09825
	Average Pressure (in. H ₂ O)
	111
	Average Flow Rate (cfm)

Shed Pressure/VOC Measurements

Port ID	Typical Pressure Range	Pressure	Typical Range of VOCs (ppb)	VOC (ppb)
Manifold 12	-0.300 to -0.500	-0.21	0 to 2000	28
Manifold 13	-0.300 to -0.500	-0.217	0 to 5000	23
Manifold 14	-0.300 to -0.500	-0.195	0 to 2000	36
Combined Influent	-0.600 to -0.700	-0.389	0 to 2000	15
Effluent	0.480 to 0.600	0.58	0 to 2000	0

Comments

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126. Manifold 13 is the manifold pipe for rooms 134 and 138. Manifold 14 is the manifold pipe for rooms 142 and 146.

Weekly Mechanical Inspection Log for Capuano Center

GENERAL INFORMATION

GEI Field Representatives: T. Daigle
S. Slater
Date: 07/30/07
Weather: overcast, humid, ~80° F

Start-time of monitoring work: 16:00
End-time of monitoring work: 17:30
System Status: ON

INSTRUMENTATION INFORMATION

Instrument	PID (ppb)	Manometer (in H ₂ O)
Manufacturer	Pro-Rae Systems	Dwyer
Model	ppb-RAE	Mark III-475-0000 Series
GEI Identification No.	PINE	NA
Calibrant	10 ppm Isobutylene	NA
Successful Calibration	Yes	Zeroed before each reading

FIELD MEASUREMENTS

Shed Secure? YES Discharge Pressure Port

Condensate Accumulated? NO

Condensate Drained? NA

Insert Increment	Pressure (in. H ₂ O)
0.25"	0.095
0.5"	0.099
1.0"	0.101
2.0"	0.112
	0.10175
	Average Pressure (in. H ₂ O)
	110
	Average Flow Rate (cfm)

Shed Pressure/VOC Measurements

Port ID	Typical Pressure Range	Pressure	Typical Range of VOCs (ppb)	VOC (ppb)
Manifold 12	-0.300 to -0.500	-0.289	0 to 2000	191
Manifold 13	-0.300 to -0.500	-0.294	0 to 5000	247
Manifold 14	-0.300 to -0.500	-0.281	0 to 2000	267
Combined Influent	-0.600 to -0.700	-0.563	0 to 2000	137
Effluent	0.480 to 0.600	0.575	0 to 2000	171

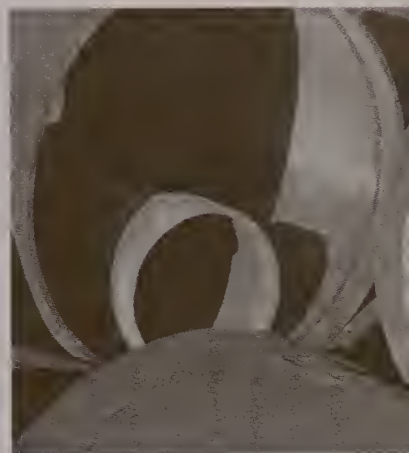
Comments

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126. Manifold 13 is the manifold pipe for rooms 134 and 138. Manifold 14 is the manifold pipe for rooms 142 and 146.



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ATTACHMENT C

Capuano SSDS Field Monitoring Reports

GENERAL INFORMATION				
GEI Field Representatives:	T. Daigle		Exterior	Interior
	S. Slater	Start-time of monitoring work:	16:00	20:15
Date:	07/30/07	End-time of monitoring work:	17:30	21:20
Weather:	-80°F, humid, overcast	System Status:	ON	

INSTRUMENTATION INFORMATION					
Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppb)	Pro-Rae Systems	ppb-RAE	PINE	10 ppm Isobutylene	Yes
Manometer (in H ₂ O)	Dwyer	Mark III-475-0000-FM	NA	NA	Zeroed before each reading

FIELD MEASUREMENTS

Exterior Extraction Monitoring Points

Monitoring Point Identification	Manometer Reading (in. H ₂ O)	PID Reading (ppb)
122-1	-0.168	0
122-2	-0.165	0
122-3	-0.169	0
126-1	-0.191	0
126-2	-0.166	0
126-3	-0.205	0
134-1	-0.268	0
134-2	-0.285	0
134-3	-0.254	0
138-1	-0.286	378
138-2	-0.202	381
138-3	-0.191	0
142-1	-0.178	0
142-2	-0.166	0
142-3	-0.165	350
146-1	-0.164	278
146-2	-0.292	393
146-3	-0.287	259

System Configuration

Extraction Point Valve Identification	Status (on/off?)
122-1	ON
122-2	ON
122-3	ON
126-1	ON
126-2	ON
126-3	ON
134-1	ON
134-2	ON
134-3	ON
138-1	ON
138-2	ON
138-3	ON
142-1	ON
142-2	ON
142-3	ON
146-1	ON
146-2	ON
146-3	ON

Interior Sub-Slab Monitoring Points

Monitoring Point Identification	Manometer Reading (in. H ₂ O)	PID Reading (ppb)
Room 122A	-0.015	800
Room 126A	-0.004	50
Room 133A	-0.006	90
Room 137A	0.000	53
Room 142A	-0.007	0
Room 146A	-0.013	36

Interior Ambient Air Measurements

Classroom	PID Reading (ppb)
122	0
126	0
134	0
138	0
133	0
137	0
142	0
146	0

Blower Enclosure Monitoring Points

	Manometer Reading (in. H ₂ O)	PID Reading (ppb)
Manifold 12 ¹	-0.209	191
Manifold 13 ¹	-0.284	247
Manifold 14 ¹	-0.281	267
Combined Influent	-0.563	137
Effluent	0.575	171

Effluent Flow

Manometer Reading (in H ₂ O)	
0.095	
0.099	
0.101	
0.112	
0.10175	Average Manometer Reading (In H ₂ O)
110	Flow Rate (cfm)

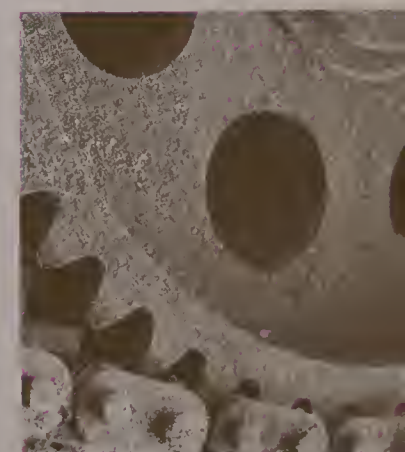
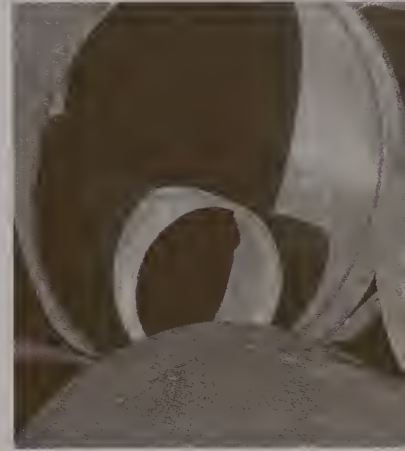
Blower Condensation Cleanout? YES (dry)

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126. Manifold 13 is the manifold pipe for rooms 134 and 138. Manifold 14 is the manifold pipe for rooms 142 and 146.
2. NA = Not Applicable.
3. NM = Not Measured.
4. Effluent flow is measured with a pitot tube and manometer at 4 different points within the effluent pipe.



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ATTACHMENT D

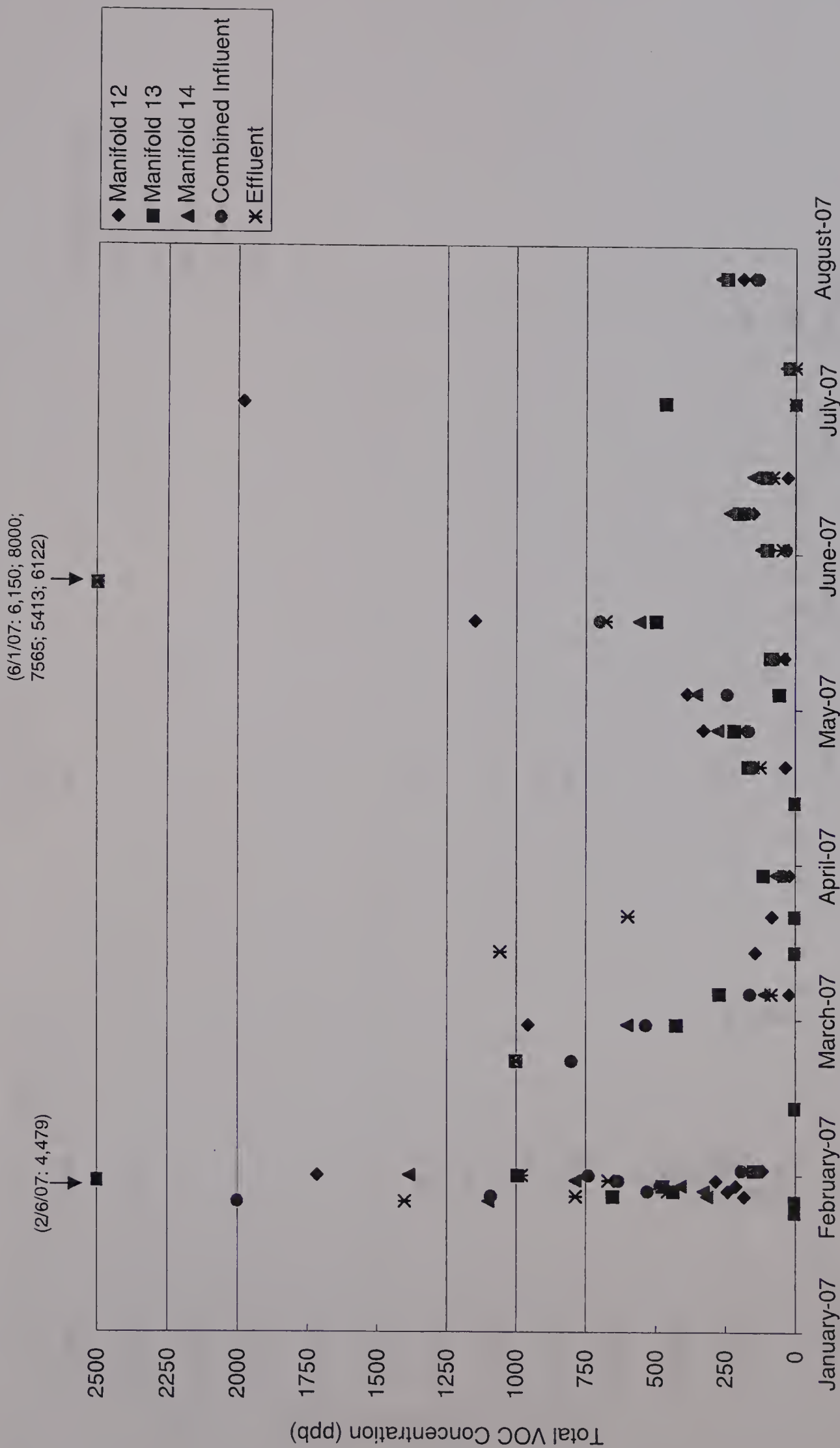
Graphs of SSDS and Sub-Slab Total VOC Concentrations

Graph 1

PID Monitoring Data: January 31, 2007 - July 31, 2007

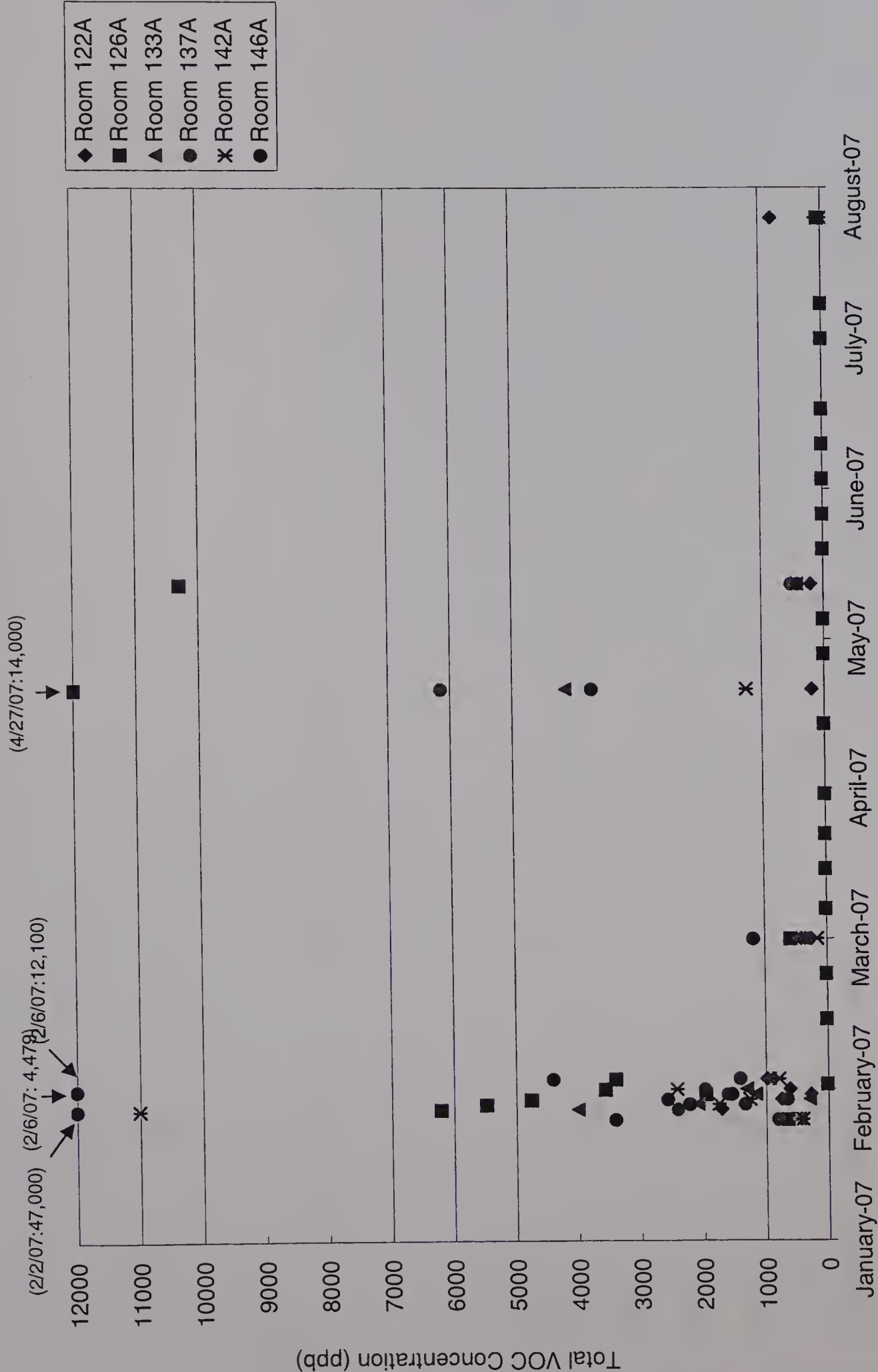
Total VOC Concentrations by PID at Blower Enclosure Sub-Slab Monitoring Points

Capuano Center
Somerville, MA



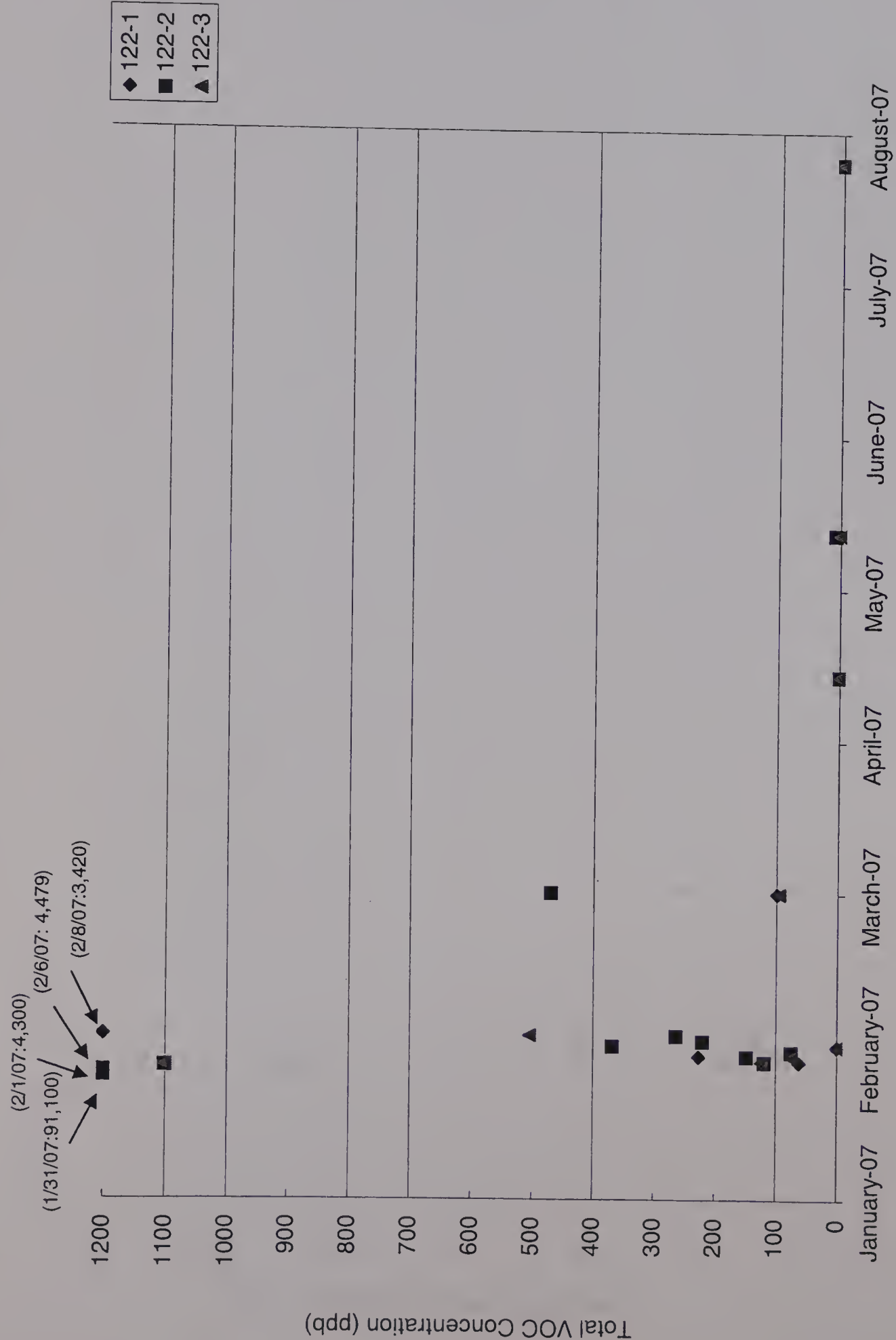
Graph 2

PID Monitoring Data: January 31, 2007 - July 31, 2007
Total VOC Concentrations by PID at Blower Interior Sub-Slab Monitoring Points
Capuano Center
Somerville, MA



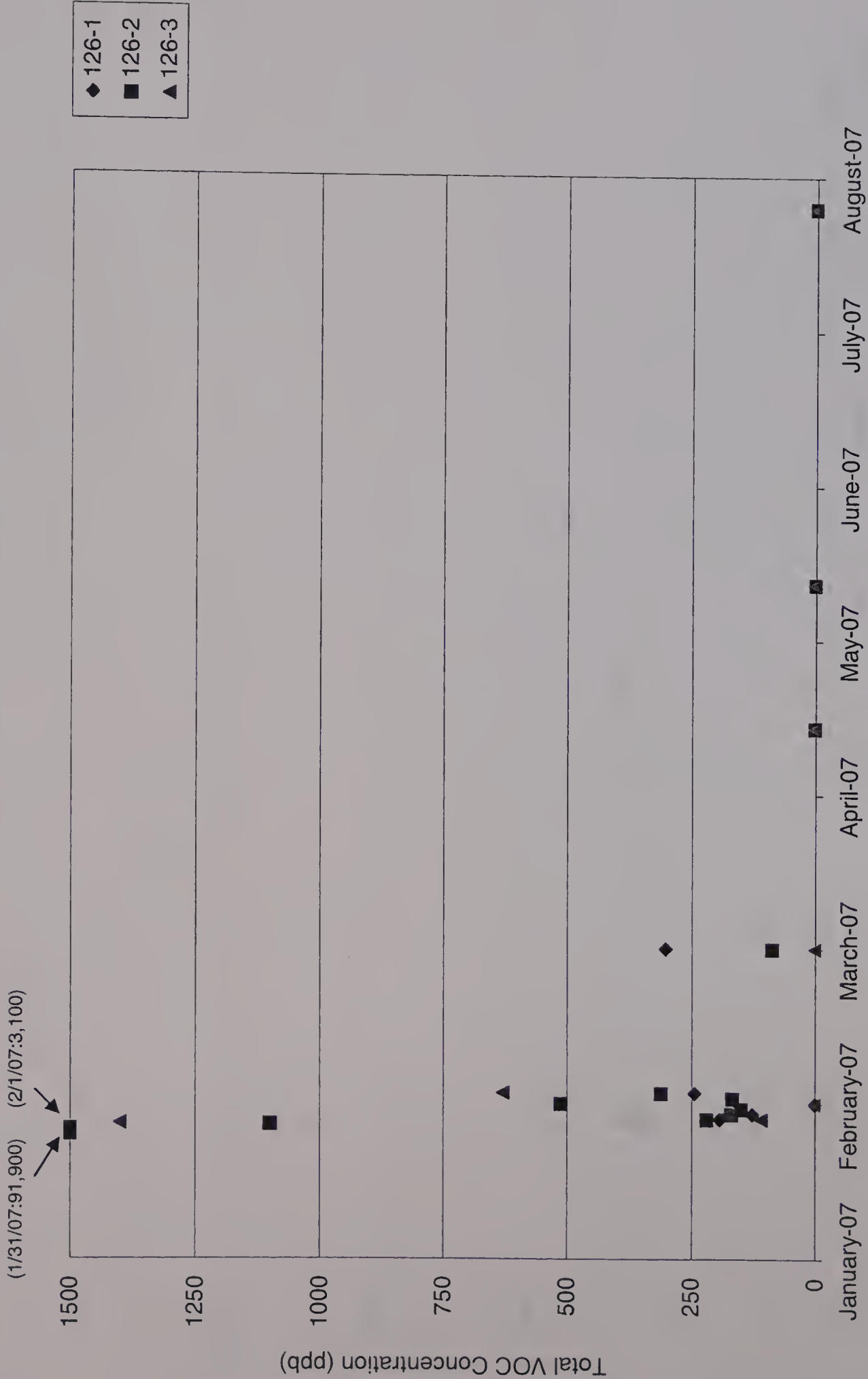
Graph 3

PID Monitoring Data: January 31, 2007 - July 31, 2007
Total VOC Concentrations by PID at Exterior Monitoring Points - Room 122
Capuano Center
Somerville, MA



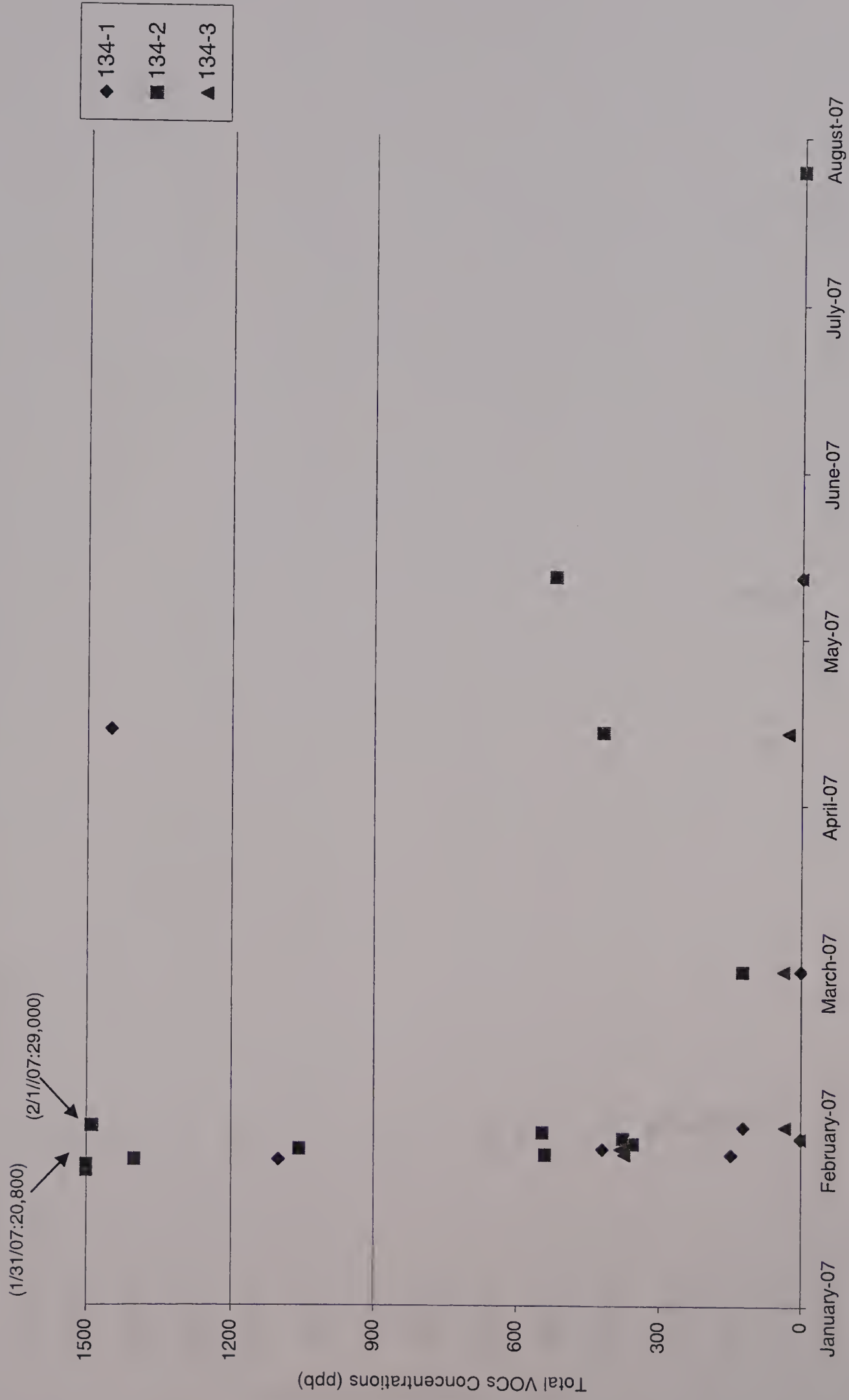
Graph 4

PID Monitoring Data: January 31, 2007 - July 31, 2007
Total VOC Concentrations by PID at Exterior Monitoring Points - Room 126
Capuano Center
Somerville, MA



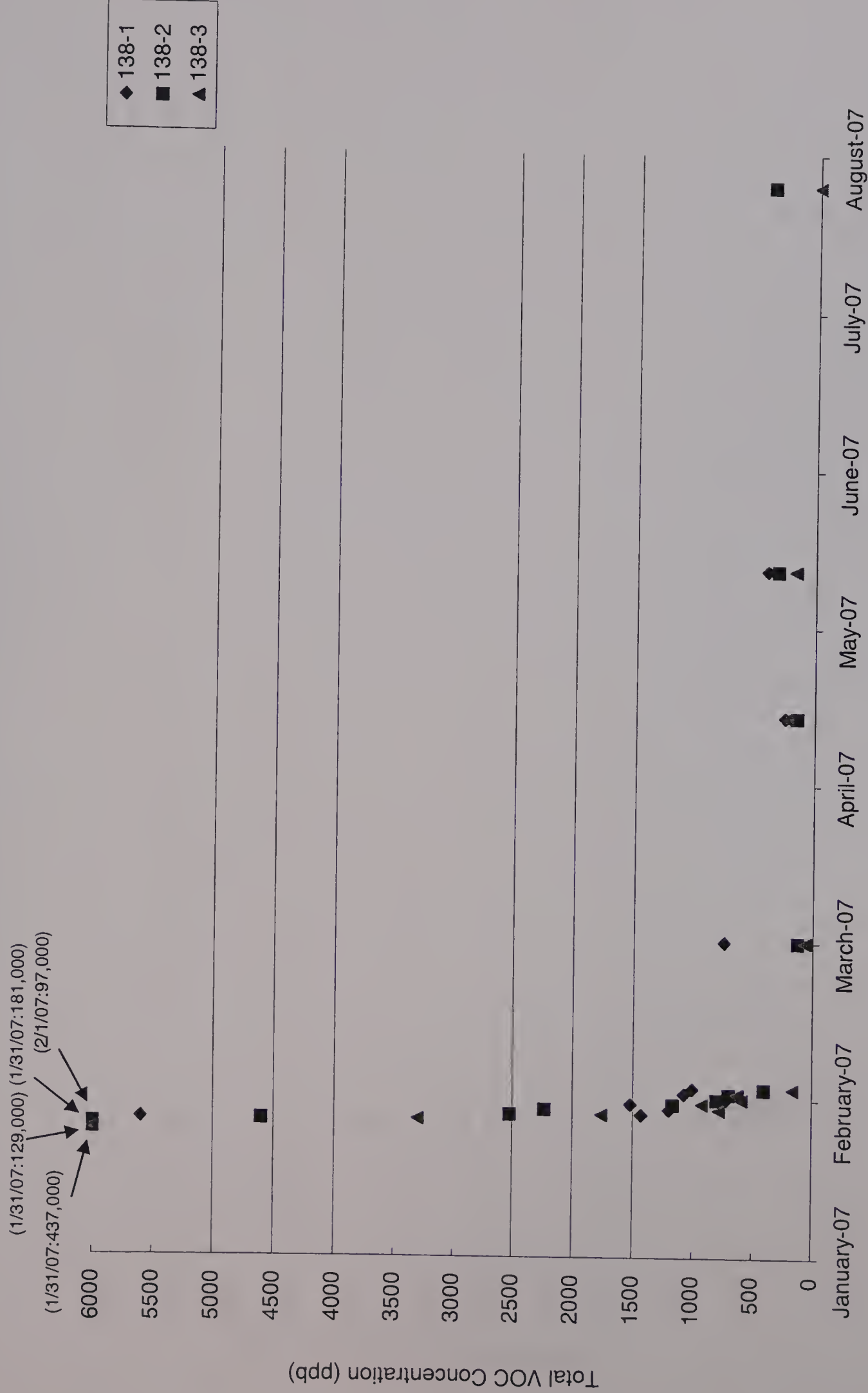
Graph 5

PID Monitoring Data: January 31, 2007 - July 31, 2007
Total VOC Concentrations by PID at Exterior Monitoring Points - Room 134
Capuano Center
Somerville, MA



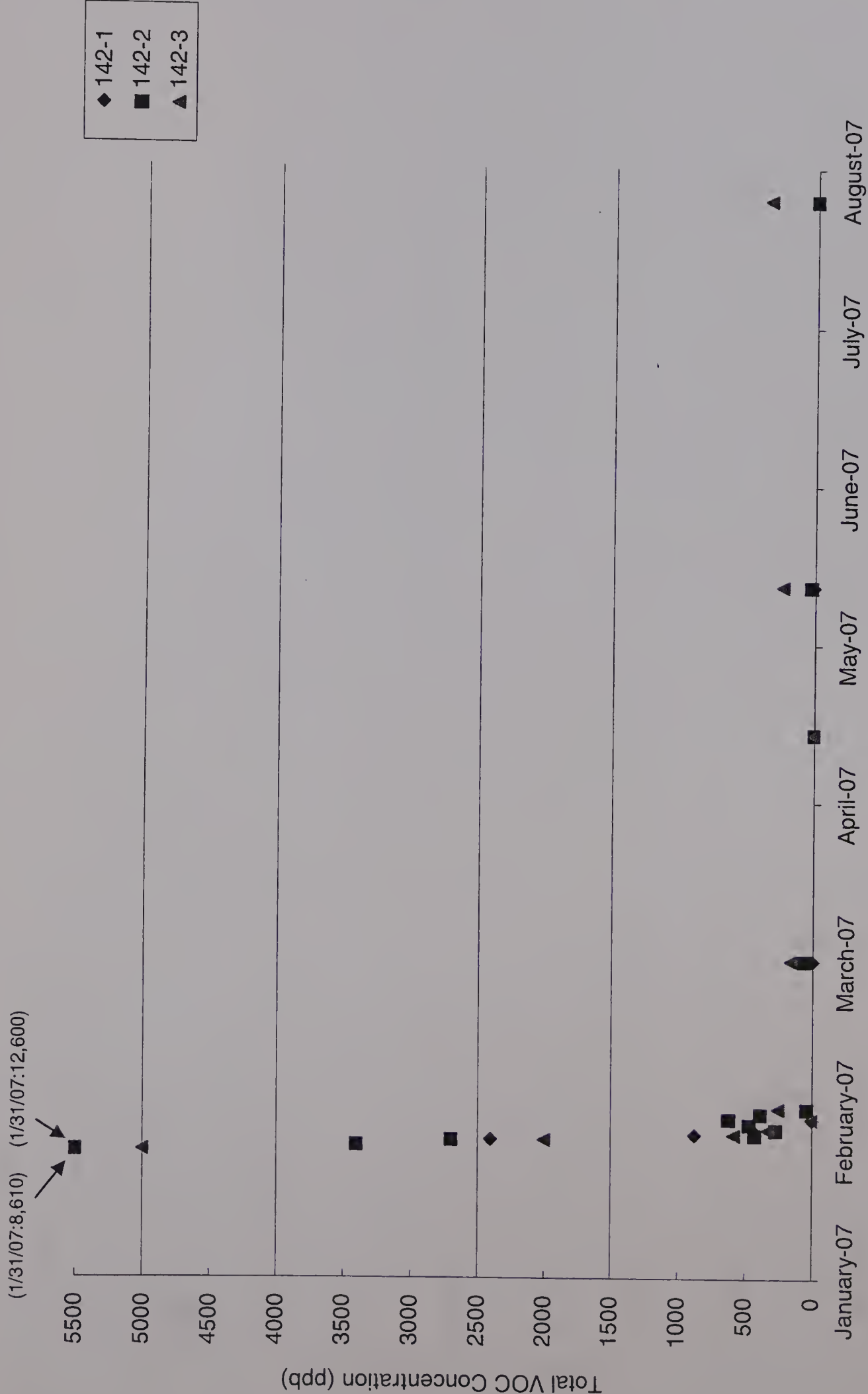
Graph 6

PID Monitoring Data: January 31, 2007 - July 31, 2007
Total VOC Concentrations by PID at Exterior Monitoring Points - Room 138
Capuano Center
Somerville, MA



Graph 7

PID Monitoring Data: January 31, 2007 - July 31, 2007
Total VOC Concentrations by PID at Exterior Monitoring Points - Room 142
Capuano Center
Somerville, MA



Graph 8

PID Monitoring Data: January 31, 2007 - July 31, 2007
Total VOC Concentrations by PID at Exterior Monitoring Points - Room 146
Capuano Center
Somerville, MA

